University Heart Center Hamburg

UHC

GERMAN AORTIC CENTER HAMBURG

Early Experience With

Fibre Optic RealShape (FORS) Technology

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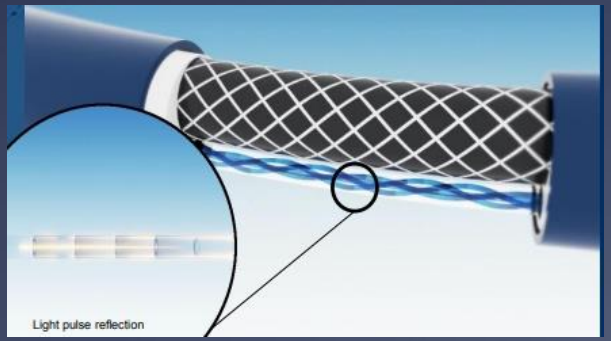
THE 24TH INTERNATIONAL EXPERTS SYMPOSIUM
CRITICAL ISSUES
IN AORTIC ENDOGRAFTING
DECEMBER 17 & 18 2021

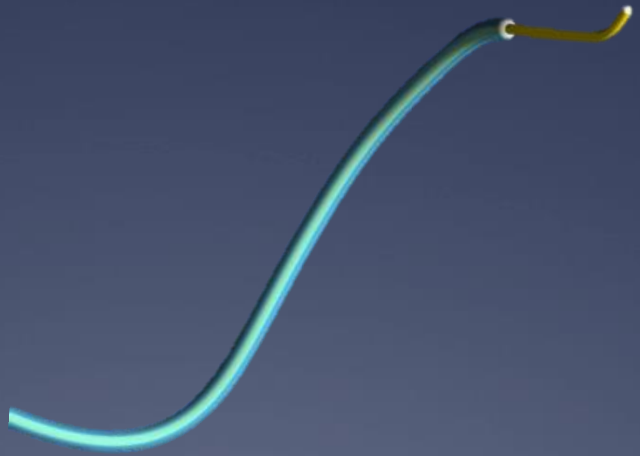
Disclosures

- Research-grants, travelling, proctoring speaking-fees, IP, royalties with Cook.
- Consultant with Philips
- Consulting, speaking-fees with Getinge
- Shareholder Mokita-Medical GmbH, Arterica
- IP, Consultant with Terumo Aortic

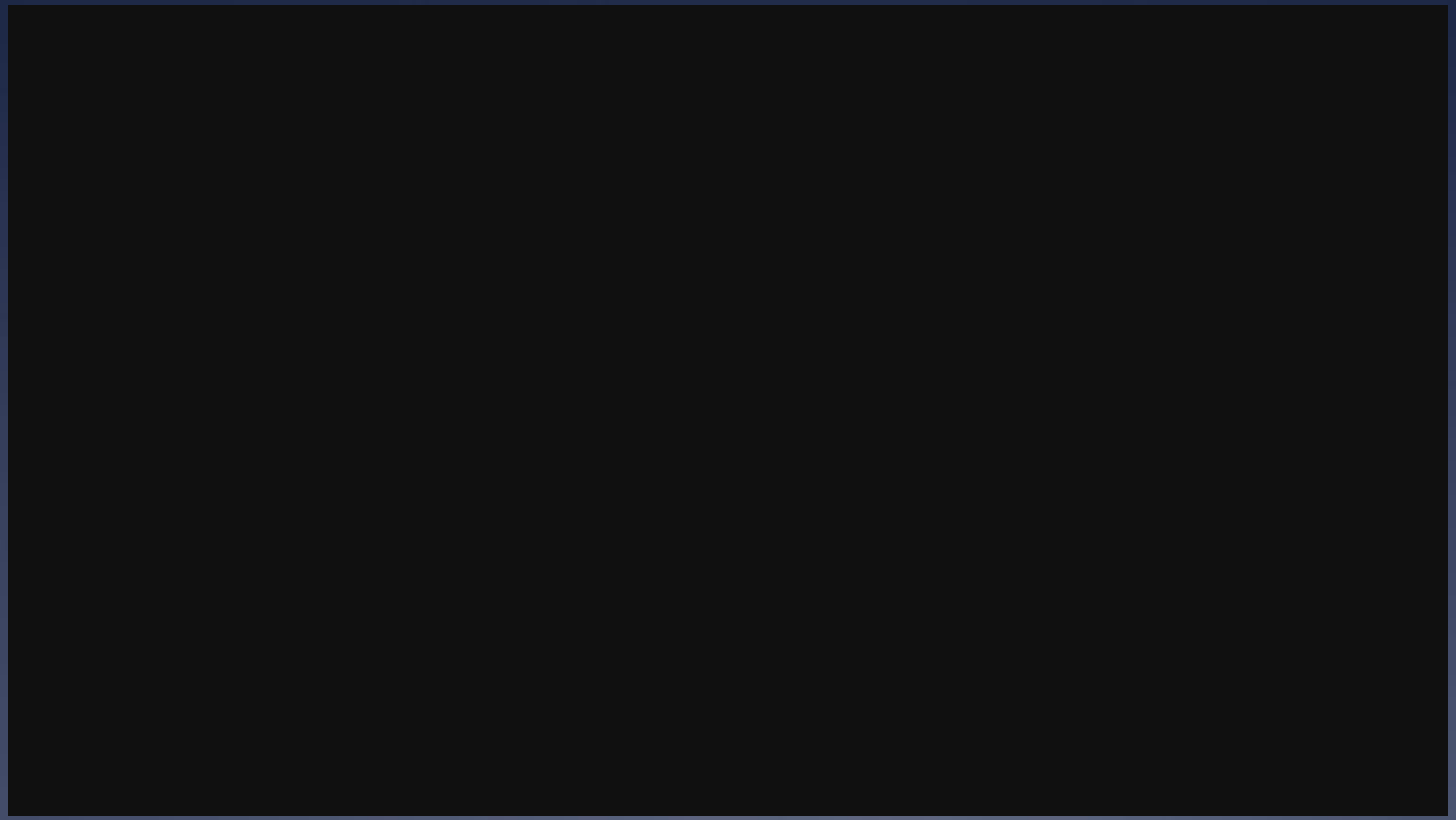
FORS Technology

- New Philips technology with CE-mark: two catheters and hydrophilic guidewire
- Embedded optical fiber enables real-time 3D visualization of the full shape of devices inside the body without the need for fluoroscopy

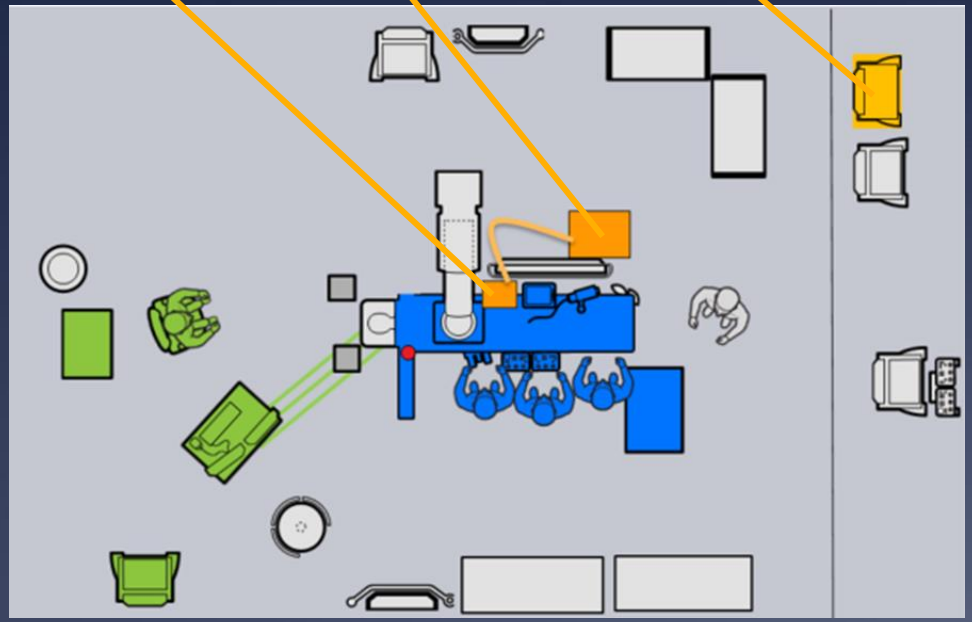


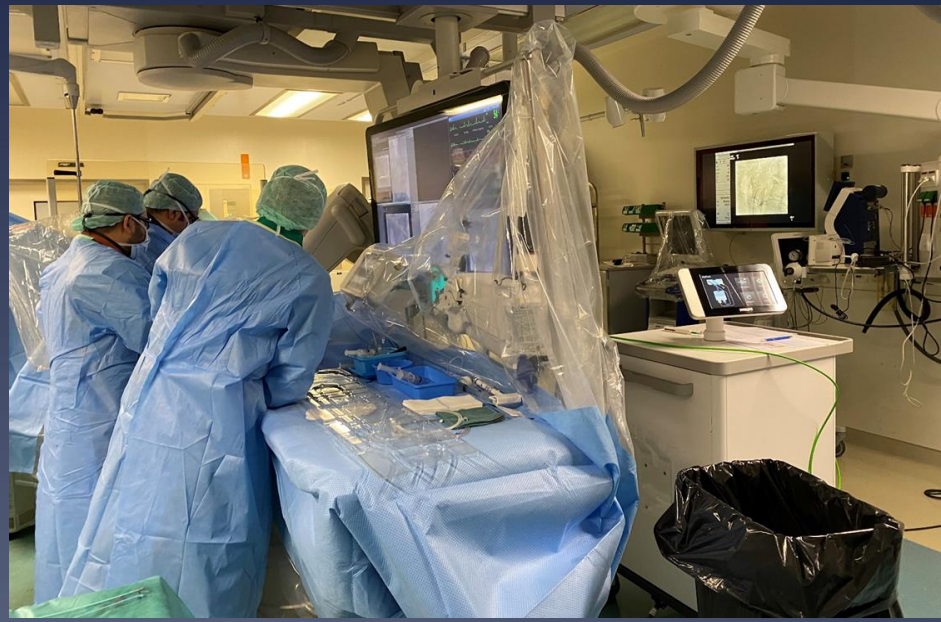


FORS-Technology

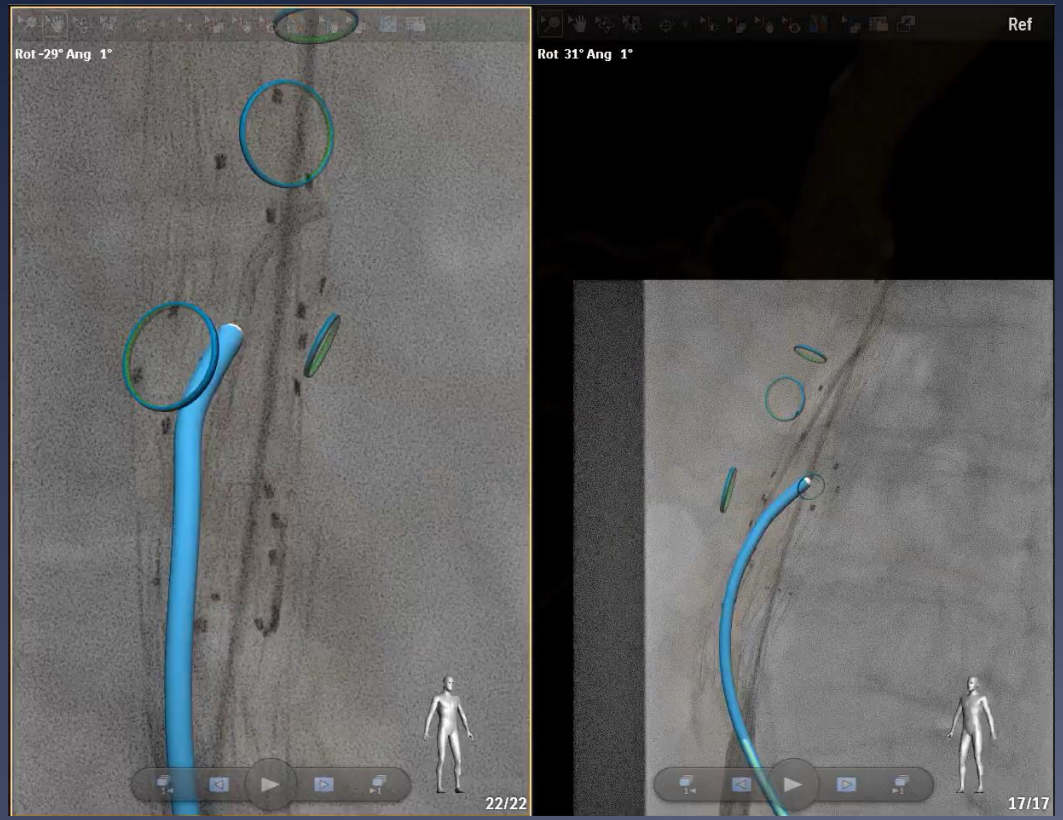


Hybrid Room - Set up Hamburg





Left Renal with FORS Catheter and Wire



Catheter In **Blue**
Hydrophilic wire in **Yellow**

Right Renal with FORS Catheter and Wire

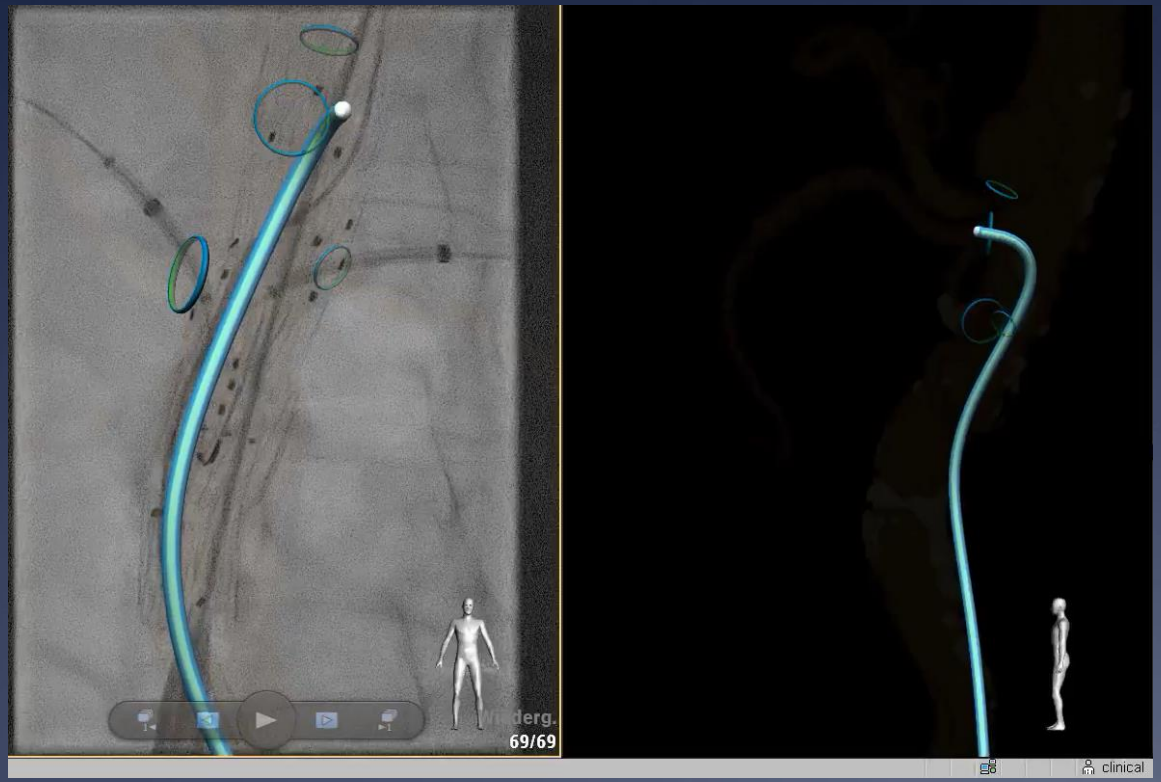
Catheter In **Blue**
Hydrophilic wire in **Yellow**

Right Renal with FORS Catheter and Wire

DSA as road map

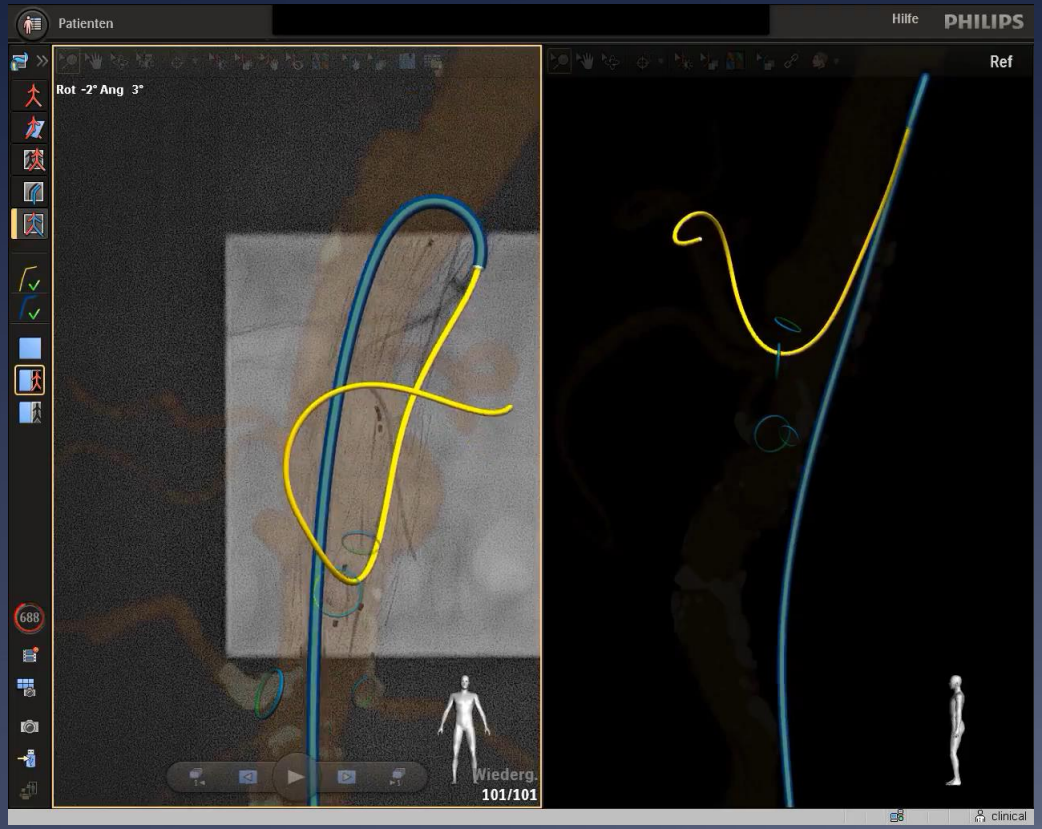
SMA with FORS Catheter and Wire

Virtual Biplane helpful to avoid lateral projection with high radiation



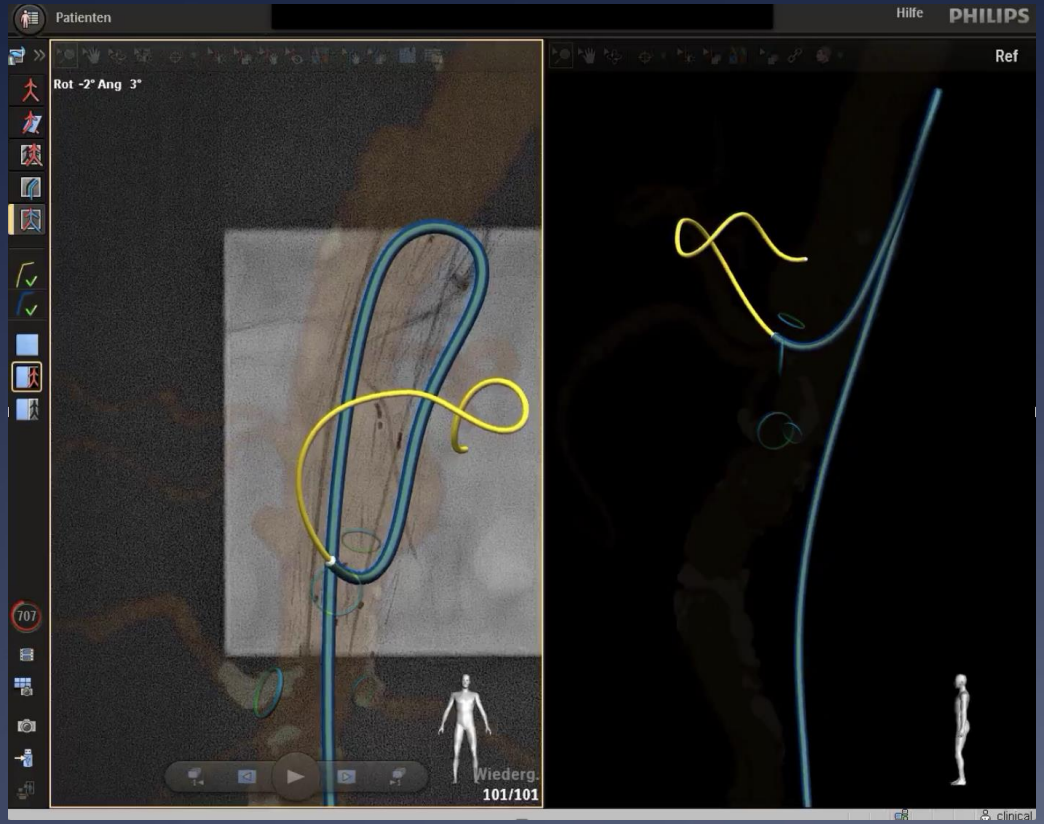
SMA with FORS Catheter and Wire

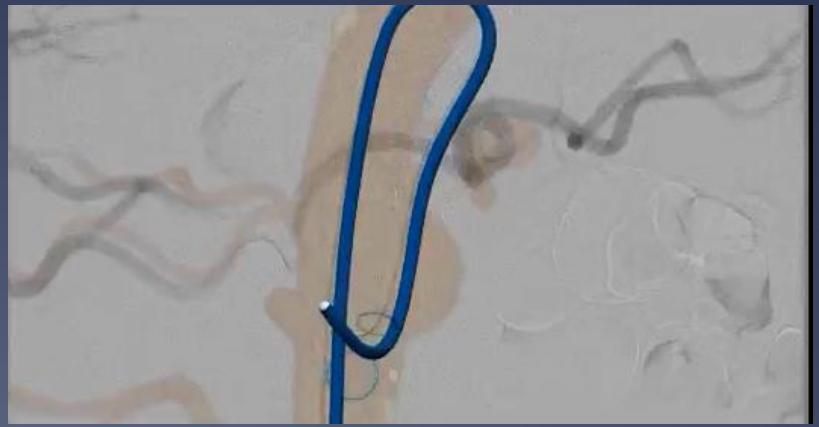
Celiac with FORS Catheter and Wire



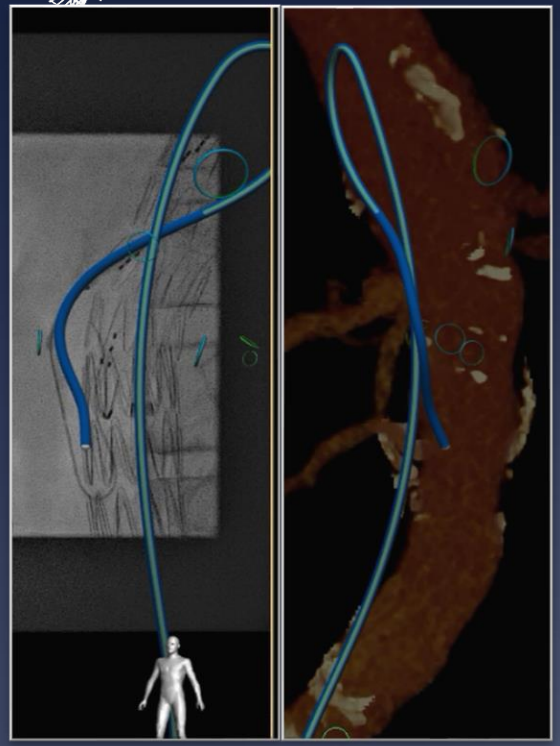
Optical fiber tolerates 180° bend from steerable sheath use in transfemoral BEVAR

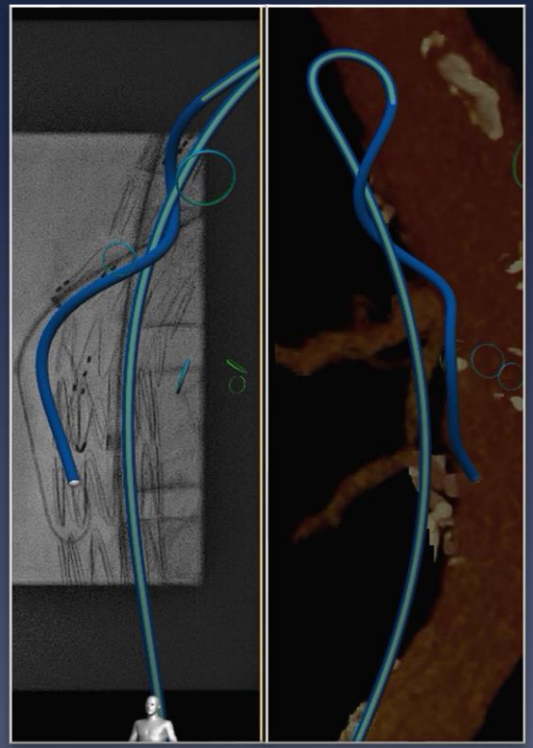
SMA with FORS Catheter and Wire

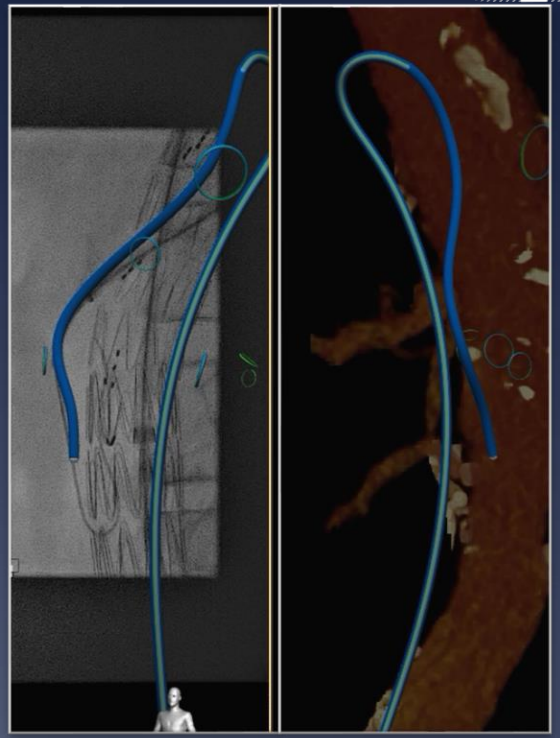




3D-Visualization

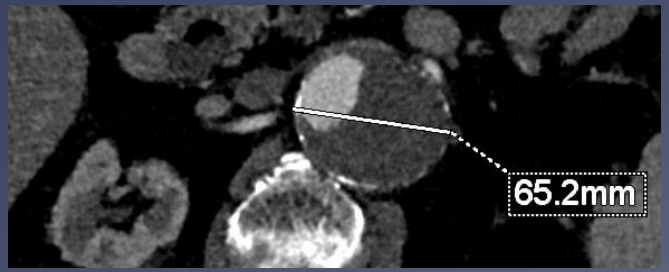


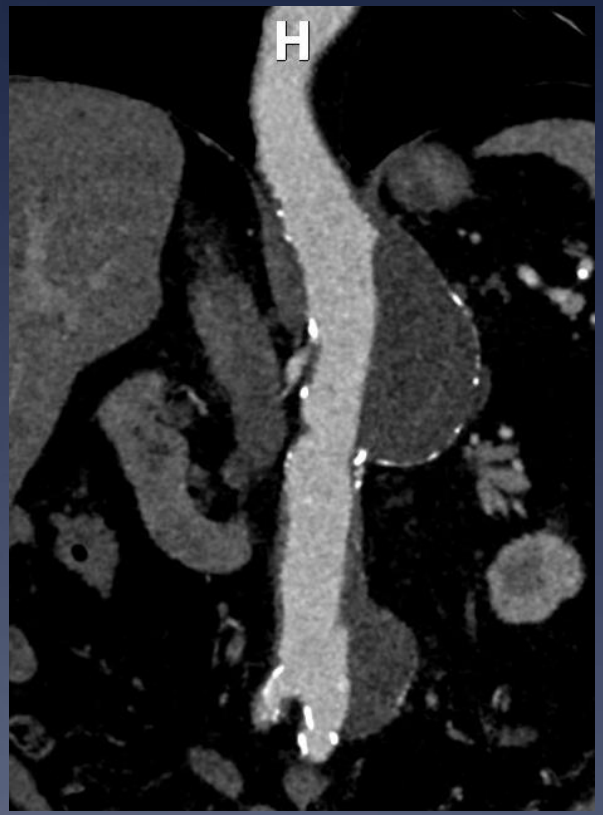




Casereport

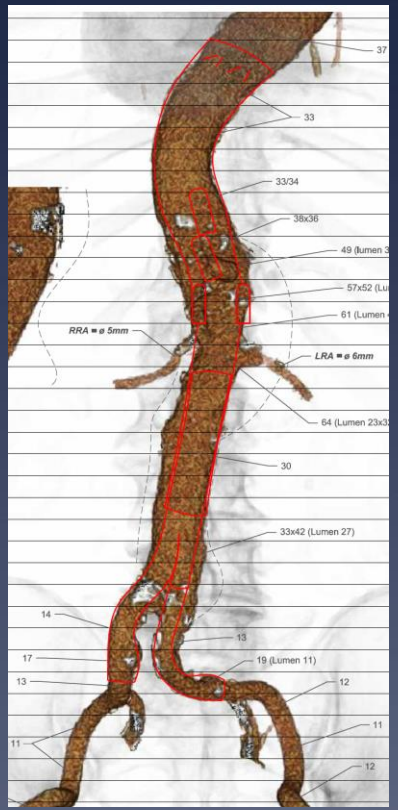
- 83y, male
- Tubegraft for AAA 2001
- TAAA IV 6.3cm: disease progression
- Aortoiliac aneurysm 5.8cm
- TAA 4.5cm
- Prev. CAS, stroke, art. Htn

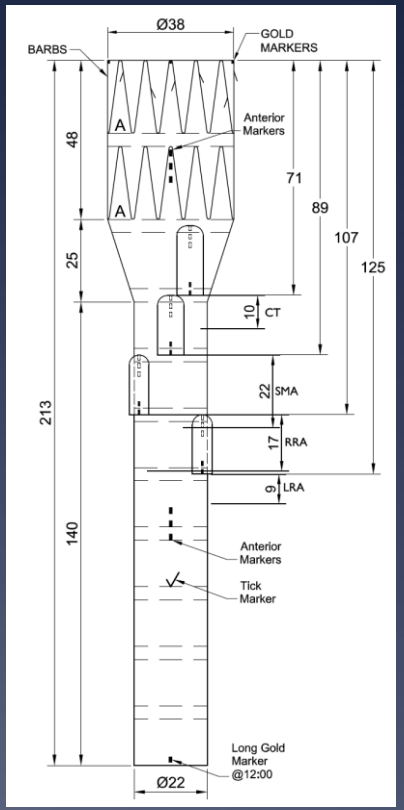




Plan

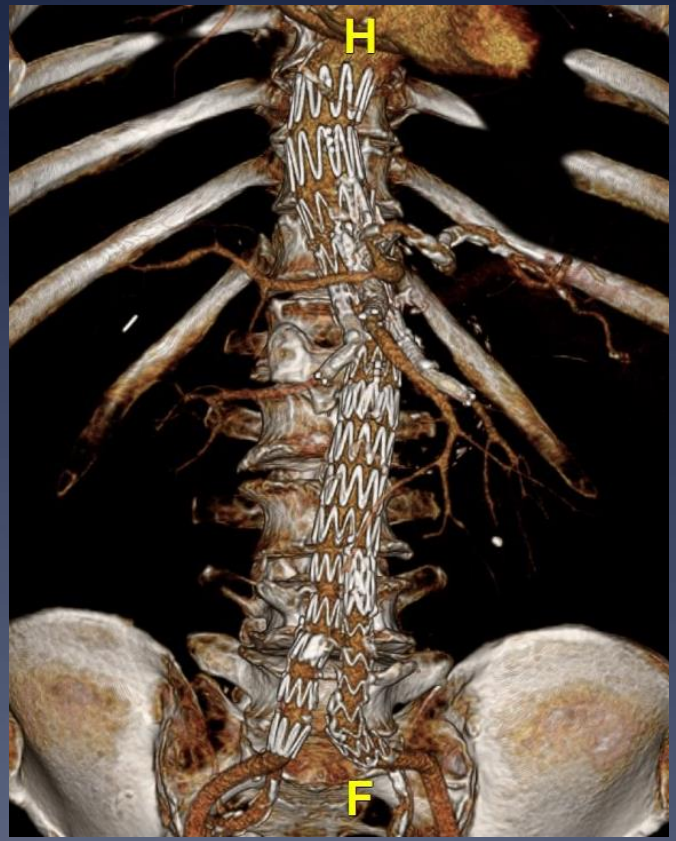

H
F


RRA = ø 5mm
LRA = ø 6mm
33x42 (Lumen 27)
19 (Lumen 11)


Ø38
BARBS
GOLD MARKERS
Anterior Markers
48
71
89
107
125
25
10
CT
22
SMA
213
17
RRA
9
LRA
140
Anterior Markers
Tick Marker
Long Gold Marker @12:00
Ø22

Postoperative

- Fluoro: 26min
- DAP: 112 Gycm^2
  - DSA: 81 Gycm^2
  - Fluoro: 31 Gycm^2
- 2 days IMC
- Uneventful recovery
- Discharge 6. POD



Conclusions

- Laser light guided BEVAR feasible with low radiation-dose and fluoro-time.
- FORS-technology offers 3D visualization in multiplanar projections enhancing target vessel catheterization in real-time.
- New, precise and low-radiation visualization tool for complex endovascular aortic repair.